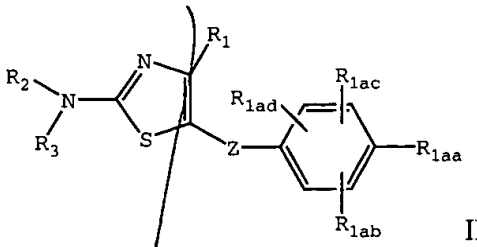
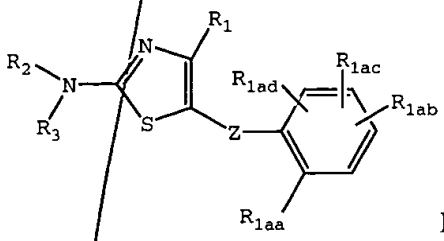


IIIb



IIIc

including diastereomers, enantiomers and salts thereof

where

Z is –S-;

R_1, R_{1ab}, R_{1ac} and R_{1ad} are independently

(1) hydrogen or R_6,

(2) -OH or $-OR_6$,

(3) –SH or $-SR_6$,

(4) $-C(O)_qH$, $-C(O)_qR_6$, or $-O-C(O)_qR_6$, where q is 1 or 2,

(5) $-SO_3H$ or $-S(O)_qR_6$,

(6) halo,

(7) cyano,

(8) nitro,

(9) $-Z_4-NR_7R_8$,

(10) $-Z_4-N(R_9)-Z_5-NR_{10}R_{11}$,

(11) $-Z_4-N(R_{12})-Z_5-R_6$, or

(12) $-P(O)(OR_6)_2$;

R_{1aa} is $-C(O)_qH$, $-C(O)_qR_6$, $-Z_4-NR_7R_8$, $-Z_4-N(R_9)-Z_5-NR_{10}R_{11}$ or $-Z_4-N(R_9)-Z_5-R_6$;

R_2 and R_3 are each independently H, $-Z_4-R_{6a}$, or $-Z_4-NR_{7a}R_{8a}$;

R_4, R_{4a}, R_5 and R_{5a} are each independently hydrogen, alkyl, aryl, aralkyl, cycloalkyl, or heteroarylalkyl;

R_6, R_{6a}, R_{6b} and R_{6c} are independently alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, aralkyl, heterocyclo, or heterocycloalkyl, each of which is unsubstituted or substituted with Z_1, Z_2 and one or more groups Z_3,

R_7, R_{7a}, R_8, R_{8a}, R_9, R_{10}, R_{11} and R_{12}

(1) are each independently hydrogen, or $-Z_4R_{6b}$; or

(2) R_7 and R_8, or R_{7a} and R_{8a} may together be alkylene, alkenylene, or heteroalkylene, completing a 3- to 8-membered saturated or unsaturated ring with the nitrogen atom to which they are attached, which ring is unsubstituted or substituted with Z_1, Z_2 and one or more groups Z_3, or

(3) any two of R_9, R_{10} and R_{11} may together be alkylene, alkenylene or heteroalkylene completing a 3- to 8-membered saturated or unsaturated ring together with the nitrogen atoms to which they are attached, which ring is unsubstituted or substituted with one or more Z_1, Z_2 and Z_3;

Z_1, Z_2 and Z_3 are each independently

(1) hydrogen or Z_6,

(2) –OH or $-OZ_6$,

(3) –SH or $-SZ_6$,

(4) $-C(O)_qH$, $-C(O)_qZ_6$, or $-O-C(O)_qZ_6$,

(5) $-SO_3H$, $-S(O)_qZ_6$, or $-S(O)_qN(Z_9)Z_6$,

(6) halo,

(7) cyano,

(8) nitro,

(9) $-Z_4-NZ_7Z_8$,

(10) $-Z_4-N(Z_9)-Z_5-NZ_7Z_8$,

(11) $-Z_4-N(Z_{10})-Z_5-Z_6$,

(12) $-Z_4-N(Z_{10})-Z_5-H$,

(13) oxo,

(14) any two of Z_1, Z_2, and Z_3 on a given substituent may together be alkylene or alkenylene completing a 3- to 8-membered saturated or unsaturated ring together with the atoms to which they are attached; or

(15) any two of Z_1, Z_2, and Z_3 on a given substituent may together be $-O-(CH_2)_q-O-$;

Z_4 and Z_5 are each independently

(1) a single bond,

(2) $-Z_{11}-S(O)_q-Z_{12}-$,

(3) $-Z_{11}-C(O)-Z_{12}-$,

(4) $-Z_{11}-C(S)-Z_{12}-$,

(5) $-Z_{11}-O-Z_{12}-$,

(6) $-Z_{11}-S-Z_{12}-$,

(7) $-Z_{11}-O-C(O)-Z_{12}-$,

(8) $-Z_{11}-C(O)-O-Z_{12}-$; or

(9) alkyl

Z_6 and Z_{6a} are independently

(i) alkyl, hydroxyalkyl, alkoxyalkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, aralkyl, alkylaryl, cycloalkylaryl, heterocyclo, or heterocycloalkyl;

(ii) a group (i) which is itself substituted by one or more of the same or different groups (i); or

(iii) a group (i) or (ii) which is independently substituted by one or more of the groups (2) to (15) of the definition of Z_1;

Z_7, Z_8, Z_9 and Z_{10}

(1) are each independently hydrogen or $-Z_4-Z_{6a}$;

(2) Z_7 and Z_8 may together be alkylene, alkenylene, or heteroalkylene completing a 3- to 8-membered saturated or unsaturated ring together with the atoms to which they are attached, which ring is unsubstituted or substituted with one or more Z_1, Z_2 and Z_3, or

(3) Z_7 or Z_8, together with Z_9, may be alkylene, alkenylene, or heteroalkylene completing a 3- to 8-membered saturated or unsaturated ring together with the nitrogen atoms to which they are attached, which ring is unsubstituted or substituted with one or more Z_1, Z_2 and Z_3;

Z_{11} and Z_{12} are each independently

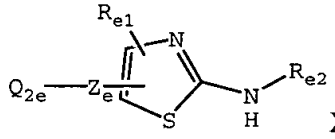
(1) a single bond,

(2) alkylene,

(3) alkenylene, or

(4) alkynylene;

provided said compound is other than a compound of formula XIV



XIV

where

Z_e is –S-;

Q_{2e} is phenyl optionally substituted with one group selected from halo, hydroxy, alkoxy nitro, $-NH_2$, -alkyl(NH_2), $-C(O)NH_2$, -alkylC(O)NH_2 or -arylC(O)NH_2;

R_{e1} is H, alkyl, hydroxyalkyl, halogen or carboxy; and

R_{e2} is H, -C(O)alkyl,-SO_2alkyl or –C(O)phenyl optionally substituted with halogen.

9. A compound of claim 8 where

R_2 is hydrogen or alkyl; and

R_3 is $-Z_4R_{6a}$, where:

(a) Z_4 is a single bond and R_{6a} is heteroaryl optionally substituted with one or more Z_1, Z_2 or Z_3;